CL2Y8-TP1B2 CC-Link/LT Remote I/O Module

Thank you very much for purchasing this product.

Please read this manual thoroughly before starting to use the product and handle the product properly.

User's Manual

MODEL CL2Y8-TPIB2-U MODELCODE 13JP04 IB(NA)-0800234-D(1406)MEE

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SAFETY PRECAUTIONS

(Read these precautions before using.)
Please read this manual carefully and pay special attention to safety in order to handle this product properly. Also pay careful attention to safety and handle the module properly. These precautions apply only to Mitsubishi equipment. Refer to the user's manual of the CPU module to use for a description of the programmible controller system safety precautions. In this manual, the safety precautions are classified into two levels: "MWARNING" and "MCAUTION".

≜WARNING	Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.
≜ CAUTION	Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.
Under some sireumete	anona failure to absence the proportions given under

Under some circumstances, failure to observe the precautions given under "⚠ CAUTION" may lead to serious consequences. Observe the precautions of both levels because they are important for personal and system safety. Make sure that the dusers read this manual and then keep the manual in a safe place for future

IDESIGN PRECAUTIONS]

⚠ WARNING

- Refer to Chapter 3 of this manual for the operation status of the module in case a
- communication error occurs in the data link.

 Output could be switched on or off when a problem occurs in the remote I/O modules. So build an external monitoring circuit that will monitor any output signals that could cause a serious accident.

[DESIGN PRECAUTIONS]

Do not have control cables and communication cables bundled with or placed ne
by the main circuit and/or power cables. Wire those cables at least 100mm(3.94
inch) away from the main circuit and/or power cables. It may cause malfunction
due to noise interference.

[INSTALLATION PRECAUTIONS]

- **⚠** CAUTION
- Use the module in an environment that meets the general specifications contained in this manual. Using this module in an environment outside the range of the general specifications could result in electric shock, fire, erroneous operation, and damage to or deterioration of the product.
 Do not directly touch the module's conductive parts. Doing so could cause malfunction or trouble in the module.
 Tighten the module securely using DIN rall or installation screws within the specified torque range. If the screws are too lose, the module may drop from its installation position, short circuit, or maifunction. If the screws are too tight, the screws may be damaged, which may cause the module to drop from its installation position or short circuit.

[WIRING PRECAUTIONS]

MARNING

Perform installation and wiring after disconnecting the power supply at all phases externally. If the power is not disconnected at all phases an electric shock or product damage may result.

[WIRING PRECAUTIONS]

⚠ CAUTION

Module

power supply

Voltage

Current consumptio

- Terminal screws which are not to be used must be tightened always.
 Otherwise there will be a danger of short circuit against the bare solderless terminals.

 Perform correct wiring for the module according to the product's rated voltage and terminal arrangement. Connecting to a power supply different from rating or misswiring may cause fire and/or product failure.

 Extreminal screws securely within the regulated tropus. Loose terminal screws.
- wining may cause tire and/or product failure.

 Fix terminal screws securely within the regulated torque. Loose terminal screws may cause fire and/or malfunction. If the terminal screws are too tight, it may cause short circuit or erroneous operation due to damage of the screws.

 Make sure foreign objects do not get inside the module, such as dirt and wire chips. It may cause fire, product failure or malfunction.

Type CL2Y8-TP1B2

24V DC (-15 to +20%) (ripple ratio : within 5%) 40mA or lower (When 24V DC and all point is on

DC type noise voltage 500Vp-p, noise width 1µs, noise carrier frequency 25 to 60Hz (noise simulator condition)

[STARTING AND MAINTENANCE PRECAUTIONS]

WARNING

- Do not touch terminals when the power is on. It may cause an electric shock or malfunction.
- Perform cleaning the module or retightening of terminal screws after turning off the all external power supply for sure. Failure to do so may cause failure or malfunction of the modules.

[STARTING AND MAINTENANCE PRECAUTIONS]

↑ CAUTION

- Do not disassemble or modify the module. Doing so may cause failure,
- Do not alsassemble of motify the module. Doing so may cause failure, malfunction, injury, or fire.
 The module case is made of resin; do not drop it or subject it to strong shock. A module damage may result.
 Make sure to switch all phases of the external power supply off before installing or removing the module toffrom the panel. Failure to do so may cause failure or malfunction of the modules.

[DISPOSAL PRECAUTIONS]

⚠ CAUTION

When disposing of this product, treat it as industrial waster

PRÉCAUTIONS DE SÉCURITÉ

<u> AVERTISSEMENT</u>	Attire i une si

l'attention sur le fait qu'une négligence peut créer situation de danger avec risque de mort ou de

ATTENTION Attire l'attention sur le fait qu'une négligence peut créer une situation de danger avec risque de blessures légères ou de gravité moyennes ou risque de dégâts matériels.

Dans certaines circonstances, le non-respect d'une précaution de sécurité introduite sous le titre 'ATTENTION'peut avoir des conséquences graves. Les précautions de ces deux niveaux doivent être observées dans leur intégralité car elles ont trait à la sécurité des personnes et aussi du système. Veiller à ce que les utilisateurs finaux lisent ce manuel qui doit être conservé soigneusement à portée de main pour s'y référer autant que de besoin.

[PRÉCAUTIONS DE CONCEPTION]

AVERTISSEMENT

- Pour l'état opérationnel du module en cas d'erreur de communication dans la liaison de données, se reporter au Chapitre 3 du présent manuel.

 La sortie pourrait se trouver activée ou désactivée à la survenance d'un problème dans le module E/S distant. On constituera donc un circuit de surveillance externe couvrant tous les signaux de sortie qui pourraient être à l'origine d'un accident grave.

[PRÉCAUTIONS DE CONCEPTION]

ATTENTION

Ne pas grouper ni placer à proximité les câbles de commande ou câbles de communication avec les câbles des circuits principaux et/ou d'alimentation. Câbler en plaçant ces câbles à une distance d'au moins 100mm (3,94 pouces) des câbles des circuits principaux ou de l'alimentation. Cela pourrait être à l'origine d'un bruit parasite entraînant des dysfonctionnements.

[PRÉCAUTIONS D'INSTALLATION]

ATTENTION

- Utiliser le module dans un environnement conforme aux spécifications générales Unites l'e indoute dars un environnement comorne aux specinications generales présentées dans ce manuel. L'utilisation de ce module dans un environnement autre que celui prévu dans les spécifications générales peut être à l'origine d'un choc électrique, d'un départ de feu ou d'un dysfonctionnement, ou peut endommager ou détériorer le produit.
 Éviter tout contact direct avec les parties conductrices du module.
 Cela pourrait être à l'origine de dysfonctionnements ou autres problèmes avec le cette.

- Serrer le module fermement avec un rail DIN ou avec des vis de fixation serrées
 dans les limites du couple de serrage prescrit.
 Si le serrage des vis est insuffisant, il y a risque de chute du module, de courtcircuit ou de dysfonctionnement. Un serrage excessif peut endommager les vis et
 il y a risque de détachement du module et de court-circuit.

[PRÉCAUTIONS DE CÂBLAGE]

AVERTISSEMENT

4 3 2 1

Effectuer l'installation et le câblage après avoir déconnecté l'alimentation externe sur toutes les phases. Si l'alimentation n'a pas été coupée sur toutes les phases, il y a risque d'électrocution ou d'endommagement du produit.

24G

[PRÉCAUTIONS DE CÂBLAGE]

Les vis des bornes qui restent inutilisées doivent toujours être serrées Faute de quoi, il y a danger de court-circuit par contact avec les borne sans soudure.

 Effectuer le câblage du module correctement, compte tenu de la tension nominale Ellectuer le canage du moune correctement, compte tent ue la tension nominale du produit et ne respectant l'affectation des bomes. Le raccordement d'une alimentation de tension nominale différente ou une erreur de câblage peuvent être à l'origine d'un départ de feu et/ou d'une panne du produit. Fixer les vis de borne fermement en serrant au couple prescrit. Des vis de bornes desserrées peuvent être à l'origine d'un départ de feu et/ou de divsfonctionnements.

Si serrage excessif des vis de bornes peut les endommager et être à l'origine d'un

court-circuit ou d'un fonctionnement erratique.

• Veiller à éviter toute pénétration d'impuretés, copeaux de câblage ou autre corps étranger dans le module. Cela pourrait être à l'origine d'un départ de feu, ou du panne ou d'un dysfonctionnement du produit.

Ne pas toucher aux bornes quand l'appareil est sous tension. Cela pourrait être à l'origine d'un choc électrique ou d'un dysfonctionnement.

Avant de nettoyer le module ou de resserrer les vis de borne, s'assurer que toutes les alimentations externes ont effectivement été coupées. Faute de quoi, il y a risque de panne ou de dysfonctionnement des modules.

Ne pas démonter ni modifier le module. Cela pourrait être à l'origine de pannes, de

Ne pas cernonter in modimer le miouine. Ceta pourrait eure a l'origine de parines, ve dysfonctionnements, de blessures ou d'un départ de feu.

Ne pas faire tomber ou soumettre le module à des chocs car son boîtier en plastique est fraijle. Il pourrait en résulter un endommagement du module.

Avant d'installer le module dans le tableau ou de l'en retirer, il est indispensable de couper l'alimentation externe sur toutes les phases. Faute de quoi, il y a risque de

● Lors de sa mise au rebut, ce produit doit être traité comme un déchet industriel.

CONDITIONS OF USE FOR THE PRODUCT

Misuoisni programmable controller (The PRODUCT) shall be used in conditions;
i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.
The PRODUCT has been designed and manufactured for the purpose of being used in general industries.
MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")
Prohibited Applications include, but not limited to, the use of the PRODUCT in;

Prohibited Applications include, but not limited to, the use of the PRODUCT in; Nuclear Power Plants and any other power plants operated by Power

companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.

Railway companies or Public service purposes, and/or any other cases in

Aircraft or Aerospace, Medical applications, Train equipment, transport

injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion.

general specifications of the PRODUCTs are required. For details, please

This user's manual explains specifications and names of individual parts of the CL2Y8-TP1B2 type CC-Link/LT remote I/O module (hereinafter abbreviated as remote I/O

contact the Mitsubishi representative in your region

authorize use of the PRODUCT in one or more of the Prohibited Applications provided that the usage of the PRODUCT is limited only for the specific

applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the

which establishment of a special quality assurance system is required by the

Vehicles, Manned transportation, Equipment for Recreation and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals

Mining and Drilling, and/or other applications where there is a significant risk of

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in

[PRÉCAUTIONS DE DÉMARRAGE ET DE MAINTENANCE]

[PRÉCAUTIONS DE DÉMARRAGE ET DE MAINTENANCE]

panne ou de dysfonctionnement des modules.

[PRÉCAUTIONS DE MISE AU REBUT]

ATTENTION

<u>AVERTISSEMENT</u>

ATTENTION

ATTENTION

Purchaser or End User

5. Wiring

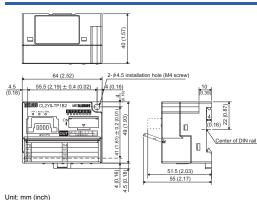
CC-Link/LT interfac CL2Y8-TP1B2 DC/DC YZ COM+ 1413 15th

All COM+ and DC24V terminals are connected within the module (common). The power to the module is supplied via the power adapter.

Toutes les bornes COM+ et DC24V sont connectées à l'intérieur du module (commun). L'alimentation du module se fait via l'adaptateur d'alimentation

English	French		
Load power supply/ external power supply of the output part	Alimentation de charge/alimentation externe de la partie sortie		
24V DC	24 V cc		
Connector for CC-Link/LT interface	Connecteur pour interface CC-Link/LT		
Terminal block for I/O interface	Bornier pour interface E/S		
Insulation	Isolation		
Constant voltage circuit	Circuit à tension constante		

6. External Dimensions



2. Specifications

2.1 General Specifications

The General specifications for the remote I/O module are shown in the following table. 0 to 55°C 0 à 55 °C temperatur Températur e ambiante de fonctionne Storage ambient temperat 5 to 95%RH, non-condensing Storage ambient humidity Vibration requency cceleration amplitude with JIS B 3502 and count 10 times 5 to 8.4Hz 3.5mm 61131-2 8.4 to 150Hz vibration (, Y, Z lirections 5 to 8.4Hz 1.75m 8.4 to 150Hz vibration Compliant with JIS B 3502 and IEC 61131-2 (147 m/s², 3 times each in 3 directions X, Y, Shock Operating

Pollution degree This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 300V is

200V.
2 This index indicates the degree to which conductive material is generated in terms of the environment in which the equipment is used.
Pollution level 2 is when only non-conductive pollution occurs. A temporary

conductivity caused by condensing must be expected occasionally.

3 It can also be used in an environment other than on the control panel if conditions such as usage ambient temperature and humidity are satisfi

2.2 Performance specifications

lo corrosive gases

Inside a control panel

0 to 2000m

Operating altitude

Installation

Overvoltage category

The performance specifications for the remote I/O module are shown in the following

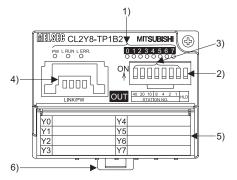
Type			CL2Y8-TP1B2				
Number of outputs			8 points				
Isolation	method		Photocoupler isolation				
Rated loa	id voltage		12/24V DC				
Max. load	d current		0.1A/point 0.8A/1 common				
Max. inru	sh current		0.7A 10ms or lower				
Leakage	current at	OFF	0.1mA or lower				
Voltage d	rop at ON		0.3V or lower (TYP.) 0.1A, 0.6V or lower (MAX.) 0.1				
Output m	ethod		Sink type				
Protect function			Overload protection function ,Overheat protection function				
Response time		OFF →ON	0.5ms or lower				
		ON →OFF	0.5ms or lower (Resistive load)				
Surge suppression			Zener diode				
Common wiring method		thod	8 points/1 common(4 points)(terminal block 2-wire type)				
Number of stations occupied		occupied	In 4-point mode: Occupies 2 stations In 8 or 16-point mode: Occupies 1 station				
External	Voltage		10.2 to 28.8V DC (ripple ratio : within 5%)				
power supply of the output part	Current consumption		15mA (24V DC, when all points are ON) Not including external load current				

First transient/noise burst IEC 61000-4-4 : 1kV 500V AC for 1 minute between primary (external DC terminal) and secondary (internal circuit) Withstand voltage $10 M\Omega$ or more between primary (external DC terminal) and secondary (internal circuit) when measured with a 500V DC insulation resistance tester Insulation resistance Protection class 0.09kg Weight I/O part connection method Méthode de raccordement of la partie E/S Direct-type 14-point terminal block (M3 screw) Bornier 14-points type direct (Vis M3) DIN rail installation, mounted by screws of type M4 × 0.7 mm × 16 mm or larger Can be installed in six directions RAV1.25-3.(in conformance with JIS C 2805) [Applicable wire size : 0.3 to 1.25mm² (22 to 16 AWG) V1.25-3 (Japan Solderless Terminal Mfg. stranded wire] [Taille du fil à utiliser : 0,3 à 1,25 mm2 (22 à 16 AWG) fil torsadé] Solderless Terminal Mfg. Co., Ltd.) •1.25-3, TG1.25-3 (NICHIFU TERMINAL INDUSTRIES Co., Ltd.) INDUSTRIES Co., Lta.) • RAV1.25-3.(en conformité avec JIS C 2805) • V1.25-3 (Japan Solderless Terminal Mfg. Co., Ltd.) • 1,25-3, TG1,25-3 (Nichifu Terminal Industries Co., Ltd.) Matériau mperature

- rminals connected to the terminal block, refer to the appropriate tightening torque. Use UL listed solderless terminals and, for crimping
- appropriate igniening torque. Use UL listed soliceness terminals and, for crimping, use a tool recommended by their manufacturer. Quant aux bornes sans soudure à utiliser pour les raccordements sur la plaque à bornes, voir le tableau ci-dessus. Utiliser les fils du type prescrit pour les bornes sans soudure et serrer à un couple de serrage approprié. Utiliser les bornes sans soudure répertoriées par UL et, pour le montage, utiliser l'outil recommandé par le fabrirant de cas bornes. fabricant de ces bornes

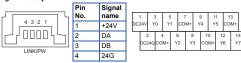
3 Part Names

This section explains the names of the components for the remote I/O module.



[Pin numbers and signal names]

[Terminal numbers and signal names]



[Numéros de broche et noms des signaux]

[Numéros de borne et noms des signaux]

+24V DA DB

1)	Operating	LED name	Confir	mation (details				
	status indicator LEDs	PW	Off: 1	Power so The pow drop is to	er supp	ly is tu	ned of	f or the	voltage
		L RUN	Off : 0	Normal o Commur time exp	nication	cutoff			
		L ERR.	Flicke	ndicates has occu- he allow r at regu- ndicates changed The mo- he LED will be re- estored r at irregundicates unconnectionnection	arred or rable ra alar inte that th while co dule con is flicked of gular inte that th cted or on cabl	the set nge. ervals: e settin current ntinues ering. T when t ervals: e termi that the e are a	g switch g switch is being to open the chan he power all reside modulifiected	th has to g condu- rate eve- inged sizer has istor is le or	peen acted. en while ettings been
		0 to 7		ys the (the ON s					
2)	Output hold setting switch	Specifies whether to maintain or turn off the output of the remote I/O module in case the communication stops. The switch is set to OFF at shipment from the factory. ON: Maintain output off							
3)	Station number setting switches	Select "10", "20" or "40" to set the ten's place of the station number. Select "1","2","4" or "8" to set the one's place of the station number. All switches are set to OFF at shipment from the factory. All ways set the station number within the range of 1 to 64. A setting error occurs and "L ERR". LED flickers if the value outside the range 1 to 64 is set. (Example) Set the switches as below when setting the station number to 32: Station Ten's place One's place Number 40 20 10 8 4 2 1							
		32	OFF	ON	ON	OFF	OFF	ON	OFF
4)	Connector for CC-Link/LT interface	Connector power supp		Link/LT	commu	ınicatio	n line a	nd mod	lule
5)	Terminal block for I/O	Terminal ble and externa						power	supply,

4. Handling Precautions

Hook for DIN rail

Tighten the terminal screws for the module to the specified torque shown below. Insufficient tightening torque could result in shorts, failures or malfunction.

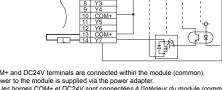
ook for installing the module on a DIN rail.

1. Serrer les vis de borne du module dans les limites du couple de serrage prescrit. Un couple de serrage insuffisant peut être à l'origine de court-circuits, pannes ou

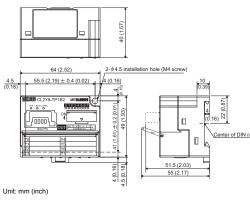
Screw location	Clamping torque range
Module mounting screw (M4 screw)	0.78 to 1.08 N•m
Terminal block terminal screw (M3 screw) Vis de fixation de bornier (vis M3)	0.42 to 0.58 N•m 0,42 à 0,58 N•m

- 2. When using a DIN rail, attach the DIN rail after taking the following items into
- plicable DIN rail types (conform to JIS C 2812) TH35-7.5Al

 Interval between the DIN rail's installation screw.
- Tighten the screws using a pitch of 200mm (7.87in.) or less when attaching a DIN rail.
 - To attach the remote I/O module to the DIN rail, press the centerline area of the DIN rail hook beneath the module until a click is heard.
- 4. Maintain some distance between the module and other components and parts, 10 mm from the top and 60 mm from the bottom of the module, in order to improve ventilation and to make replacement of the module easy if a remote I/O module is
- Install the remote I/O module on a level surface. If the surface is uneven, unnecessary force is applied to the printed circuit board, causing malfunctions.



English	French		
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24V DC	24 V cc		
Connector for CC-Link/LT interface	Connecteur pour interface CC-Link/LT		
Terminal block for I/O interface	Bornier pour interface E/S		
Insulation	Isolation		
Constant voltage circuit	Circuit à tension constante		



WARRANTY

India

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Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road PO BOX11, Rydalmere, N.S.W 2116, Australia Tel: +61-2-9684-7777 **★**MITSUBISHI ELECTRIC CORPORATION

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